(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 22 January 2004 (22.01.2004)

PCT

(10) International Publication Number WO 2004/008814 A1

(51) International Patent Classification7: H05B 41/282

(21) International Application Number:

PCT/IB2003/002855

(22) International Filing Date: 25 June 2003 (25.06.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 02077841.1

15 July 2002 (15.07.2002)

- (71) Applicant (for all designated States except US): KONIN-KLLIKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): VAN DEN BERG, Arjan [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

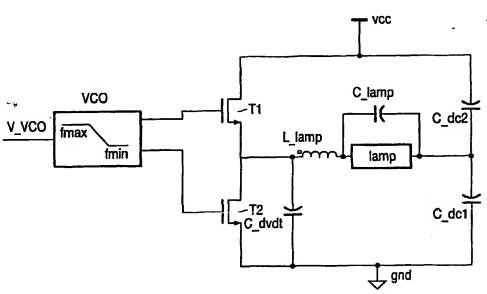
- (74) Agent: BOSMA, Rudolphus, H., A.; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

[Continued on next page]

(54) Title: BALLAST CIRCUIT FOR OPERATING A GAS DISCHARGE LAMP



(57) Abstract: Ballast circuit for operating a gas discharge lamp, comprising a half-bridge DC-AC converter having a voltage conrfolled oscillator (VCO) for alternately switching the switches (T1; T2) of said half-bridge, said oscillator (VCO) having an input with a control voltage (V vco) which determines the operating frequency of said half-bridge, a resonance circuit connected to said half-bridge for feeding the lamp, and a feedback circuit connected at a first end to said resonance circuit for adjusting the operating frequency of said half-bridge, wherein the other end of said feedback circuit is connected to the input of said voltage controlled oscillator (VCO) and designed such that during at least a substantial part of the start-up period of the lamp an equilibrium exists wherein the half-bridge frequency is at least nearly equal to the resonance frequency and the half- bridge voltage is forced to operate at least nearly in phase with the half-bridge current.



WO 2004/008814 A1

Rec'd 10/520867 11 JAN 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.